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EXAMINER

BARQADLE, YASIN M

ART UNIT PAPER NUMBER

2153

DATE MAILED: 09/10/2003

10

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No.	Applicant(s)
	09/543,054	PARUPUDI ET AL.
	Examiner	Art Unit
	Yasin M Barqadle	2153

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.

- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.

- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.

- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).

- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1) Responsive to communication(s) filed on 24 June 2003.

2a) This action is **FINAL**. 2b) This action is non-final.

3) Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4) Claim(s) 1-67 is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5) Claim(s) _____ is/are allowed.

6) Claim(s) 1-67 is/are rejected.

7) Claim(s) _____ is/are objected to.

8) Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9) The specification is objected to by the Examiner.

10) The drawing(s) filed on _____ is/are: a) accepted or b) objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

11) The proposed drawing correction filed on _____ is: a) approved b) disapproved by the Examiner.

If approved, corrected drawings are required in reply to this Office action.

12) The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. §§ 119 and 120

13) Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a) All b) Some * c) None of:

1. Certified copies of the priority documents have been received.

2. Certified copies of the priority documents have been received in Application No. _____.

3. Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

14) Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).

a) The translation of the foreign language provisional application has been received.

15) Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

Attachment(s)

1) <input type="checkbox"/> Notice of References Cited (PTO-892)	4) <input type="checkbox"/> Interview Summary (PTO-413) Paper No(s). _____
2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)	5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152)
3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO-1449) Paper No(s) <u>7&9</u>	6) <input type="checkbox"/> Other: _____

Response to Amendment

1. The amendment filed on June 24, 2003 has been fully considered but are moot in view of the new ground(s) of rejection.

- Claims 1,13, 37,45, and 58 have been amended.
- Claims 1-67 are presented for examination.

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

2. Claims 1-10, 12-20, 22-36, 45-62, and 64-66 are rejected under 35 U.S.C. 103(a) as being unpatentable over Hollenberg US (6091956) in view of Wang US (5539922).

As per claims 1 and 13, Hollenberg teaches a computing device comprising:

one or more processors [Fig.2a, Col. 5, lines 13-28; Col. 6, lines 15-30];

memory operably associated with the one or more processors [Col. 5, lines 13-28; Col. 6, lines 15-30]; and a context service module (Control programs) loadable in the memory and executable by the one or more processors to receive context information from one or more context providers (Fig. 1, 32a-c, 14a-c, GPS 34a, network 30a) and process the information to determine a current device context [col. 5, lines 13-28; col. 13, lines 9-63; col. 23, line 64 to col. 24, line 67 and col. 25, lines 1-31].

Although Hollenberg shows substantial features of the claimed invention, he does not explicitly show at least one node associated with context information and traversing at least a portion of a hierarchical tree structure of which said at least one node comprises a part.

Nonetheless, this feature is well known in the art and would have been an obvious modification of the system disclosed by Hollenberg, as evidenced by Wang USPN. (5539922).

In analogous art, Wang disclose a communication system with hierarchical system of nodes organized into multiple node trees (fig. 22 and fig. 12), the hierarchical system is capable of tracking the location of the transceiver as it moves between nodes and the hierarchical tree structure [abstract. See also col. 12, lines 18-41].

Giving the teaching of Wang, a person of ordinary skill in the art would have readily recognized the desirability and the advantage of modifying Hollenberg by employing the system of

Wang in order to provide a method of linking root nodes of various trees and for the advantage of determining a current location of a device.

As per claims 2,14 and 24, Hollenberg teaches computing device embodied as a mobile computing device [Fig. 2, 2a].

As per claims 3, 15, and 25, Hollenberg teaches computing device embodied as a desktop computing device [Col. 6, lines 15-30].

As per claim 4, Hollenberg teaches computing device wherein the device comprises cache memory that maintains a current device context [Col. 8, lines 25-60].

As per claims 5 and 16, Hollenberg teaches computing device wherein the context service module is configured to automatically receive the context information from the context providers [Col. 10, lines 12-24].

As per claims 6 and 17, Hollenberg teaches the computing device of claim 1, wherein the context service module is configured to automatically receive the context information from the context providers and, as the context of the computing device changes, process the information to determine a new current device context [Col. 8, lines 34-67; Col. 13, lines 9-63; Col. 18, lines 57-67 to Col. 19, lines 1-14].

As per claims 7 and 18, Hollenberg teaches the computing device wherein the context service module is configured to request context information from one or more of the context providers [Col. 11, lines 43-67].

As per claims 8 and 19, Hollenberg teaches the computing device of claim 1, wherein the context service module is configured to provide information concerning a current device context to one or more applications [Col. 9, lines 1-67 to Col. 10, lines 1-41].

As per claims 9, Hollenberg teaches the computing device wherein the context service module is configured to receive a request from the one or more applications that request the current device context information [Col. 9, lines 1-67 to Col. 10, lines 1-41].

As per claims 10 and 20, Hollenberg teaches the computing device of claim 1 further comprising a context provider interface associated with the context service module, the context provider interface comprising a common interface that is capable in receiving context information from multiple different context providers [Col. 18, lines 57-67 to Col. 19, lines 1-60].

As per claims 12 and 22, Hollenberg teaches a computing device further comprising one or more events that are configured for use by one or more applications so that the applications can register to receive information concerning a current device context

responsive to the occurrence of one or more events [Col. 4, lines 34-51; to Col. 23, lines 64-67 and Col. 24, lines 63].

As per claim 23 and 32, the claims have similar limitations as explained in claim 1 and 13 above. Wang further teaches at least one hierarchical tree structure resident on the media and comprising multiple nodes each of which represents a geographical division of the Earth [fig. 12, and col. 5, lines 1-25; col. 12, lines 18-41].

As per claims 24 and 33, Hollenberg teaches a computing device embodied as a mobile computing device [Fig. 2, 2a].

As per claims 25 and 34, Hollenberg teaches a computing device embodied as a desktop computing device [Col. 6, lines 15-30].

As per claim 26, Hollenberg teaches a computing device wherein the location service module is configured to determine the current device location [Col. 8, lines 34-60 and Col. 12, lines 13-40; Col. 21, lines 32-54].

As per claim 26, Wang teaches traversing multiple nodes of the hierarchical tree [fig. 12, and col. 5, lines 1-25; col. 12, lines 18-41].

As per claims 27 and 28, Wang teaches the computing device further comprising another hierarchical tree structure resident on the media and comprising multiple nodes each of which

Art Unit: 2153

represents a physical or logical entity, the location service module being configured to determine the current device location by traversing multiple nodes of the hierarchical trees; a link between nodes on the different trees, the location service module being configured to determine the current device location by traversing multiple nodes of the hierarchical trees [see fig. 12 and fig. 22; col. 5, lines 1-25; col. 10, 51-56; and col. 12, lines 18-41].

As per claims 29, Hollenberg teaches the computing device of claim 23, wherein the location service module is configured to provide information concerning a current device location to one or more applications for rendering location-specific services [Col. 9, lines 1-67 to Col. 10, lines 1-41].

As per claim 30, Hollenberg teaches a computing device wherein the location service module is configured to receive calls from the one or more applications that request the information concerning the current device location [Col. 18, lines 57-67 to Col. 19, lines 1-60].

As per claim 31, Hollenberg teaches a computing device wherein the location service module is configured to register one or more applications for notification of information concerning a current device location upon the occurrence of a definable event [Col. 4, lines 34-51; to Col. 23, lines 64-67 and Col. 24, lines 63].

Art Unit: 2153

As per claim 35, Hollenberg teaches a computing device wherein the hierarchical tree structure comprises an organization specific tree structure that has context only within a particular organization [Col. 13, lines 9-63].

As per claims 36, Hollenberg teaches a computing device further comprising one or more services associated with one or more nodes of the hierarchical tree, the device comprising an application that is executing on the one or more processors to traverse the hierarchical tree to located the one or more service [Col. 8, lines 34-60 and Col. 12, lines 13-40; Col. 21, lines 32-54. see the rejection on claims 1 and 13 concerning the limitations reading hierarchical tree and node traversing].

As per claim 45, Hollenberg teaches a computer-implemented method of determining a computing device context comprising:

receiving, with a computing device, information that pertains to a current context of the device [Col. 12, lines 13-40; Col. 13 lines 22-63];

processing the information on and with the device to ascertain the current context of the computing device [Col. 12, lines 13-40; Col. 13 lines 22-63].

As per the limitation determining, from the context information, at least one node associated with the context information and traversing at least a portion of a hierarchical tree structure of which said at least node comprises a part [see the combination and the rejection made on claims 1 and 13 above].

As per claim 46, Hollenberg teaches the computer-implemented method of claim 45, wherein said receiving comprises receiving the information with a mobile computing device [Col. 12, lines 13-40; Col. 13 lines 22-63].

As per claim 47, Hollenberg teaches the computer-implemented method of claim 45, wherein said receiving comprises receiving the information with a hand-held computing device [Col. 12, lines 13-40; Col. 13 lines 22-63].

As per claim 48, Hollenberg teaches the computer-implemented method of claim 45, wherein said receiving comprises receiving the information with a desktop computing device [Col. 6, lines 15-30; Col. 12, lines 13-40; Col. 13 lines 22-63].

As per claim 49, Hollenberg teaches the computer-implemented method of claim 45, wherein the current context is the device location [Col. 8, lines 34-60].

As per claim 50, Hollenberg teaches the computer-implemented method of claim 49, wherein the receiving of the information comprise receiving information from multiple different location providers [Col. 8, lines 34-67 and [Col. 9, lines 1-67].

Art Unit: 2153

As per claim 51, Hollenberg teaches computer-implemented method of claim 50, wherein the information that is received from the multiple different location providers is received in different forms [Col. 5, lines 13-46; Col. 8, lines 34-67 and Col. 9, lines 1-67].

As per claim 52, Hollenberg teaches the computer-implemented method of claim 50, wherein the receiving of the information comprises receiving the information through a common interface [Col. 23, lines 64-67 and Col. 24, lines 1-63].

As per claim 53, Hollenberg teaches the computer-implemented method of claim 45, wherein the receiving of the information comprise receiving information from multiple different context providers [Col. 8, lines 34-67 and [Col. 9, lines 1-67].

As per claim 54, Hollenberg teaches the computer-implemented method of claim 53, wherein the information that is received from the multiple different location providers is received in different forms [Col. 5, lines 13-46; Col. 8, lines 34-67 and [Col. 9, lines 1-67].

As per claim 55, Hollenberg teaches computer-implemented method of claim 53, wherein the receiving of the information comprises receiving the information through a common interface [Col. 23, lines 64-67 and Col. 24, lines 1-63].

As per claim 56, Hollenberg teaches the computer-implemented method of claim 45 further comprising receiving a request from an application for information that pertains to the current context of the mobile computing device and returning at least some information to the application [Col. 11, lines 43-67].

As per claim 57, Hollenberg teaches the computer-implemented method of claim 45 further comprising receiving at least one event registration from one or more applications that-pertains to an event for which the application is to receive information pertaining to the current context of the computing device, and returning information pertaining to the current context of the computing device to the one or more applications responsive to the occurrence of an client [Col. 4, lines 34-51; to Col. 23, lines 64-67 and Col. 24, lines 63].

As per claims 58-60, the claims include similar limitations as addressed above on claims 1 and 13 and claims 45-57. Therefore, they are rejected for the same reason.

As per claim 61, Wang teaches the computer-implemented method of claim 60, wherein one tree structure comprises a unique representation of a physical or logical entity [Col. 1, lines 50-67].

As per claim 62, Hollenberg teaches the computer-implemented method of claim 59 further comprising receiving a request from

Art Unit: 2153

one or more applications for information that pertains to a current device location and providing the one or more applications with the information that pertains to the current device location [Col. 8, lines 34-67; Col. 13, lines 9-63].

As per claim 64, Hollenberg teaches the computer-implemented method of claim 62, wherein the receiving of the request comprises receiving an event registration [Col. 8, lines 34-67; Col. 13, lines 9-63].

As per claim 65, Hollenberg teaches the computer-implemented method of claim 62 further comprising applying a security policy to the information that pertains to the current device location before providing the information to the one or more applications [Col. 23, lines 12-36].

As per claim 66, Hollenberg teaches the computer-implemented method of claim 59 further comprising before processing the information to ascertain a node, resolving any conflicts that might exist between information that is received from different location providers [Col. 13, lines 9-21 Col. 23, lines 37-67 and Col. 24, lines 1-28; Col. 27, lines 33-67 to Col. 28, lines 1-55].

3. Claims 11, 21, 37-44, 63 and 67 are rejected under 35 U.S.C. 103(a) as being unpatentable over Hollenberg US (6091956) in view

Art Unit: 2153

of Wang US (5539922) and further in view of Reed et al US (6088717).

As per claims 11 and 21, Reed et al teach the invention further comprising one or more application program interfaces (APIs) operably associated with the context service module, the one or more APIs being callable by one or more applications to acquire information concerning the current device context [See the rejection below on Claim 37. Col.95 lines 66-67 and Col.96, lines 1-60].

As per claim 37, Hollenberg and Wang teach all the limitations of the invention as explained in claims 1, 13, 58 and 59 above. However, Hollenberg and Wang are silent about using one or more application program interfaces (API).

Nonetheless, this feature is well known in the art and would have been an obvious modification of the system disclosed by Hollenberg and Wang, as evidenced by Reed et al USPN. (6088717).

In an analogous art, Reed et al, teach using application program interfaces (API) to transfer and access data, metadata, and methods of communications operations between provider computer and consumer computer through a communication network. Transfer of metadata and methods permits intelligent processing of information [abstract and Col.141, lines 60-67 and Col.142, lines 1-29].

Giving the teaching of Reed et al, it would have been obvious to one of ordinary skill in the art at the time of the invention was made to modify Hollenberg and Wang by providing Reed et al's API communication system for the advantage of accessing data, metadata, and methods of communications objects stored in databases and for a further of advantage of facilitating request services from another application within a desktop, server or network operating environment [Col.141, lines 60-67 and Col.142, lines 1-18].

As per claim 38, Hollenberg teaches the location-aware computing system of claim 37, wherein at least one of the one or more computing devices comprises a mobile computing device [Fig. 2, 2a].

As per claim 39, Hollenberg teaches the location-aware computing system of claim 37, wherein at least one of the one or more computing devices comprises a desktop computing device [Col. 6, lines 15-30].

As per claim 40, Hollenberg teaches the location-aware computing system of claim 37, wherein the location provider interface is configured to receive location information from multiple different location providers [Col. 8, lines 34-60; Col. 12, lines 13-40].

As per claim 41, Hollenberg teaches the location-aware computing system of claim 37, wherein the location provider interface is

Art Unit: 2153

configured to receive location information from multiple different location providers, the location service module being configured to poll one or more of the location providers so that the polled location provider can provide location information to the location provider interface [Col. 11, lines 43-67].

As per claim 42, Hollenberg teaches the location-aware computing system of claim 37 further comprising:

one or more computer-readable media [Col. 5, lines 13-28; Col. 6, lines 15-30]; and

~~Wang teaches~~ a hierarchical tree structure resident on the media and comprising multiple nodes each of which represent geographical divisional of the Earth, the location service module being configured to process the information to ascertain a current device location that comprises one node on the hierarchical tree structure [abstract. See also col. 12, lines 18-41].

As per claims 43 and 44, include similar limitations as discussed in claim 37 and 42 above. Therefore, they are rejected for the same reason.

As per claims 63, Reed et al teach the computer-implemented method of claim 62, wherein the receiving of the request comprises receiving a call to an application program interface (API) [Col.141, lines 36-67 and Col.142, lines 1-18].

Art Unit: 2153

As per claim 67, see the rejection made on claim 37 above. Therefore, the claim is rejected for the same reason as stated above in claim 37 above.

Conclusion

4. Applicant's submission of an information disclosure statement under 37 CFR 1.97(c) with the fee set forth in 37 CFR 1.17(p) on June 26, 2003 prompted the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 609(B)(2)(i). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Yasin M

Art Unit: 2153

Barqadle whose telephone number is 703-305-5971. The examiner can normally be reached on 9:00 AM to 5:30 PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Glenn Burgess can be reached on 703-305-9717. The fax phone numbers for the organization where this application or proceeding is assigned are 703-746-7239 for regular communications and 703-746-7238 for After Final communications.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is 703-304-3900.

Yasin Barqadle



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